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ABSTRACT

This paper provides a description and evaluation of the Mother-Child Program (developed by the Verbal Interaction Project) for prevention of educational disadvantage. The program consists of 46 semi-weekly home visits by "Toy Demonstrators" in each of two seven month program years, following the local school calendar. Toy Demonstrators are former mother-participants who visit low-income mother-child dyads during the child's third and fourth years of age. The program has both cognitive and affective goals. They are: (1) to enhance the conceptual and language development of the child, along with the growth of his psychosocial competence, (2) to enhance the mother's parenting skills and self-esteem and (3) to strengthen the family as a whole in its socialization functions. The curriculum material is composed of 12 books and 11 toys which are carefully selected on well-defined criteria. The content of the cognitive curriculum includes sensory-motor skills, conceptual development, and language development. The affective curriculum is related to the child's socioemotional competence and to the mother's parenting skills. All components of the curriculum are designed to promote verbal interaction between mother and child, and family and child. Between 1967 and 1974 more than 300 children and their mothers participated in the program. About 20% received a one year version of the program and the rest had two full years. Results of the evaluation indicate that the program is accomplishing its short-term cognitive objectives. The affective instruments developed by the staff indicate that the program effects positive changes in the child's and in the mother's behavior. (Author/AM)

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THE MOTHER-CHILD HOME PROGRAM[1]

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MOTHER-CHILD HOME PROGRAM

1. The Foundations of the Program

A. Theoretical Foundation

Man has been called "animal symbolicum" (Cassirer, 1944) -- the only animal which consistently and universally abstracts the essential similarities from many dissimilar experiences and symbolizes the abstractions in a perfect symbol system -- language. The symbolization role of language probably takes precedence over what is usually considered its primary function of communication (Sapir, 1962). Communication, after all, can occur by non-language means. Indeed, it is likely to do so, not only in non-human animals but in infants in the early sensory-motor stage of development. Only man, beyond the infant stage, utilizes in all societies his capacity for abstraction to reduce experience to familiar and symbolic form through language. Only man can represent experience, and organize a series of particular experiences into concepts, which are remembered and built into hierarchies of concepts by symbolizing them through words. Language, as Vygotsky commented (1962), becomes a guide for dealing with experiences in the future. Concepts, and the symbols for them, are indispensable for mastering reality; they are integral to cognitive growth, to intelligence, to the requirements of functioning in western civilization.

Essentially, language forms an inventory of one's culture. Its content is probably determined by the availability of physical and intangible categories of that culture available to the person learning the culture -- the child who plays with his parents the Original Word Game (Brown, 1958). As general intellectual growth occurs through the dynamic interaction between developing organism and environment (Piaget, 1963), the growth of language depends on interaction with others (Bruner, 1964). Its efficiency as a symbol system will depend in turn on the degree to which it expresses the "distancing" behavior of its speakers (Sigel, 1971; Werner and Kaplan, 1967).

When Bernstein classified the communication modes within families as "elaborated" or "restricted" (1965), he was in a way referring to the socialization of distancing behavior in children. Restricted modes tend to require the presence of physical referents for content, while elaborated modes tend to incorporate concepts in symbolic form. It was Bernstein's now well known suggestion that the "choice" of families to utilize either mode in communication through language reflects societal systems based on socio-economic status (SES). Families, in their socialization of the young, are generally the bearers of culture. It is through being raised in his family that the young child learns, usually implicitly rather than explicity, the values, attitudes, and behavior of the society into which he is born. Every family forms its own subculture, and some aspects of the child's language are bound to be private to that subculture. But every family is also a part of a larger subculture, or perhaps several subcultures, at least one of which in western societies has attributes associated with a particular SES. These attributes are transmitted by the family, and among them is, according to Bernstein, the mode of communication characteristic of the SES: a restricted mode common to many low-income families or an elaborated mode common to many middle or high income families. The differentiation may well result from the fact that lack of money in low income homes prevents the child's access to the "category availability" (Brown, 1958) inherent in a rich, varied assortment of household objects. These can provide the environmental focus for the many instances of concrete motor-perceptual experiences necessarily preceding the more abstract distancing behavior related to conceptual growth.

Families, and especially parents, thus serve as cultural, language, and intellectual teachers of the young, a role inevitable in relationships dominated by attachment such as those between parent and child. The details of the interaction between this attachment and cognitive development have been postulated by Eveloff (1971) and by Schaefer (1970). Murphy stressed its importance starting with earliest sensory-motor development (1967), and White (1963) has speculated on the possibly crucial role of interactional emotional supports by family figures in fostering the intrinsic motivation which eventually lead to the child's sense of competence. It is probable

that it takes humans to make humans. Whatever the future form of family, it must continue to serve at least two functions if human beings rather than Cheerful Robots are to prevail: (1) an emotional haven with what Hobart called (1963) a commitment to "inefficient" human rather than "efficient" market values; and (2) early socialization of preschool children in language and other cognitive skills, as well as long-term socialization in socio-emotional attitudes and behavior.

Both functions are fostered by the Mother-Child Home Program, with major theoretical reliance of its cognitive curriculum on an adaptation of Bruner's stage-oriented model of cognitive growth (1966). Bruner's model, in effect, sums up many of the preceding theoretical formulations. In Bruner's view, the child passes through three stages of representing the world of reality: (1) the enactive mode in which body motions are used to stand for experiences, dominant to about one year of age; (2) the iconic mode, in which mental images of particular experiences are the dominant mode of representation, with beginning labels provided for some images; this mode may prevail into adulthood in very primitive societies; and (3) the symbolic mode, in which hierarchical and horizontally-branched concepts represented by language become dominant. The development of concepts comes about mainly through a process of "instrumental conceptualism": the interchange of the child's language, around meaningful experiences, with persons in his environment. Although the symbolic mode is the most efficient for schooling and vocational success (except perhaps for dancers and artists), all three modes persist in adults even in the most developed western societies. Translatability among them may ultimately produce human beings living at their highest potential: e.g., dancers and artists who can write poetry or engineer buildings, mathematicians who can paint and interact with sensory experiences. At the least, translatability among the three modes encourages flexibility in life, and in vocational choices.

B. Research Foundations

Empirical data from diverse sources support these theoretical propositions. For example, the importance of the family's role in the cognitive socialization of preschool children was underscored by the findings of an extensive study by Bronfenbrenner (1968) concerning the effects of attachment and separation behavior in animals and humans. Bronfenbrenner more recently summarized the obvious implication for children's development:

> In the early years of life, the psychological development of the child is enhanced through his involvement in progressively more complex, enduring patterns of reciprocal, contingent interaction with persons with whom he has established a mutual and enduring attachment (Bronfenbrenner, 1974).

The persons with whom the child is most likely to have a "mutual and enduring attachment" are, of course, his parents. And the age into which the "early years of life" should be translated is about two to four years, according to several studies of SES and cognitive development (e.g., Golden & Birns, 1968).

The research of Bateson and Mead (1942), and of Whiting and Child (1953), is representative of several anthropological studies demonstrating the powerful role of families in the transmission of culture. The influence of early cultural experiences even on perception was impressively demonstrated in a study of the differing susceptibility of people from "carpentered" and "uncarpentered" societies to visual illusions (Segall, Campbell, & Herskovits, 1966). And 25 years ago, the transmission of SES-related characteristics through the family was demonstrated in Irwin's now classic study of the relation between reading to working class infants at home and phoneme frequency; those babies whose mothers read to them daily showed a higher phoneme frequency than those who did not have this experience (Irwin, 1960). This was consistent with a review by Bronfenbrenner (1958) of class-influenced child rearing practices. Many years later a study by John and Goldstein (1964) suggested that for optimum effect, intervention like Irwin's should be two way, requiring feedback from the child as well as to the child from a parent, and that the "contingent interaction" later advocated by Bronfenbrenner should include verbal interaction. In 1972, Cazden developed this theme through her observation that children's verbal development was increased through "extensions" of the child's language by the adults conversing with him (Cazden, 1972).

The affective impact of SES membership was noted in a study by McKinley (1964), who found that low income parents were reported by their sons to be more authoritarian than those of middle or high income. This finding tended to be supported by the Chicago study of Hess and Shipman (1965), whose methodology and data had important implications for preschool programs planned to prevent educational disadvantage in low income children. Hess and Shipman's data, from samples of Black families with varied incomes in a different country and with a population ethnically different from those considered by Bernstein, supported Bernstein's theory of the influence of SES on family language and attitudes toward others. Briefly, Hess and Shipman found that, with ethnicity held constant, mothers' teaching modes and attitudes toward their children differed according to social class. The lower the SES of the mother, the more likely it was that her communication with her child was in the restricted mode, and that her attitude toward him was status-oriented rather than person-oriented. (These investigators made a number of other valuable observations, many of which were eventually reflected in the cognitive curriculum of the Mother-Child Home Program. The Mother-Child Home Program was, in a sense, an inversion of the methods used in the Hess and Shipman study, which utilized toys to spark the interaction between the mother and child being observed in the study. The MCHP also uses toys to spark verbal interaction, but for developmental rather than diagnostic purposes.)

The conclusions from these and other studies (such as Schaefer's, 1969) and from the theoretical foundations described before are summarized in the six basic assumptions of the Mother-Child Home Program:

1. A program to foster cognitive growth should focus primarily on stimulating verbal interaction between mother and child when the child is between two and four years (the most fertile period of language and attachment development), within the context of the affectively rich and usually enduring mother-child relationship.

2. Through informal verbal interaction and the teaching of labels and categories of labels, the mother is in a unique position to help the child develop his innate capacity for symbolization, and thus for conceptualization and intelligence, while enhancing their mutual attachment and the child's affective development.

3. The child's cognitive socialization can be aided by focusing the verbal interaction around permanently assigned materials providing a large number of perceptually available categories which are sequentially ordered for optimal match to the child's developmental level.

4. The child's own home is the most natural, comfortable, and convenient place to conduct a program for both the mother and the two to four-year old child.

5. A home visitor should be trained to visit the child's home to stimulate verbal interaction between mother and child (treated as a dyad), with the non-didactic nature of his or her role identified by the role's title. This home visitor should model, rather than teach, a verbal-cognitive curriculum and its functional utilization within the family while safeguarding the mother's autonomy and privacy, and respecting the life styles of dyads' homes.

6. The materials for the verbal-cognitive curriculum of verbal interaction techniques should be intrinsically motivating, sturdy, and permanently assigned, available for reinforcement of the program a long time after the child has graduated from the MCHP .

C. Brief Description of Mother-Child Home Program

From these assumptions the Mother-Child Home Program for prevention of educational disadvantage was developed by the Verbal Interaction Project first as a pilot program in 1965; by 1968 it had evolved into its present format. The program consists of 46 semi-weekly home visits by "Toy Demonstrators" in each of two seven-month program years ("Program I" the first year, "Program II" the second year), following the local school calendar. Visits are made to low-income mother-child dyads during the child's third and fourth years of age. If other family members are at home, they are encouraged to join the Home Session.

The Toy Demonstrators are former mother-participants (of high school education or less) who are paid, and unpaid women volunteers (usually college educated). The Toy Demonstrators are trained in an initial workshop and in weekly group conferences throughout the program. During each program year twelve books and eleven toys are permanently assigned to the child, in alternate sequence each week. The materials are increasingly complex. The Toy Demonstrator models verbal interaction techniques for the mother. The techniques are focused around the toys and books and are drawn from a structured cognitive curriculum. The curriculum is taught to the Toy Demonstrators by Program Supervisors and is made explicit for each new book or toy through a mimeographed Guide Sheet. The Supervisors also convey an affective curriculum of interpersonal attitudes and behavior to increase the Toy Demonstrator's sensitivity and respect for the family, and her ability to act as a non-teaching, non-counseling model for parenting skills.

Since 1970, the MCHP has been replicated in more than 30 locations outside of the Verbal Interaction Project; the experiences in the replication sites have affirmed the practicability of the program.

II. Curriculum Objectives

The overall aim of the program is to prepare children intellectually and socially for later school experience while deepening the quality of life for children, mothers, and families. Generally, the goals are both cognitive and affective: (1) to enhance the conceptual and language development of the child, along with the growth of his psychosocial competence; (2) to enhance the mother's parenting skills and self-esteem; and (3) to strengthen the family as a whole in its "emotional haven" and socialization functions.

The most visible task of the program is to demonstrate to the mother the uses of verbal interaction in leading the child joyously from the world of action (enactive mode), through the world of perception (iconic mode), into the world of symbolizing ideas, while leaving the doors open between them and preserving his spontaneity and creativity.

III. Selection of Content

A. Curriculum Materials

To provide the focus of a verbal interaction curriculum, twelve books and eleven toys, all commercially available, are furnished to the child in each of the two program years. They are called Verbal Interaction Stimulus Materials, or "VISM", as a constant reminder of their primary purpose. They are carefully selected on well defined criteria, 26 for the toys and 8 for the books. Two general considerations to be fulfilled by both toys and books are operationalized in the criteria: rich potentiality for category availability (Brown, 1958) and intrinsic attractiveness to the child (Moyer and Gilmer, 1955). Intrinsically attractive toys, rich in small-muscle motor-manipulative possibilities, are also likely to stimulate the self-initiated sensory-motor feedback loop identified as reafference by Held (1965). The toys thus aid the perceptual development which must form a base for the iconic mode and, eventually, for symbolization. In quite a different way, books (the curriculum materials with the fewest motoric properties) also feed into the child's perceptual base through colorful illustrations. Further, they draw the child away from his world of immediate perceptual experience both by their content (stories outside of his own life) and by their illustrations (pictures of objects instead of the objects themselves). The books, in short, provide repeated experiences with "distancing" on iconic and symbolic levels, while the toys help the child to construct a sensory-motor map of his world through a variety of motor activity.

The VISM criteria for toys are listed in Table 1 and those for books in Table 2, with illustrations from the 1967 VISM list included in both tables. The VISM list, selected by the Verbal Interaction Project staff, changes from year to year, either in response to the observed or reported preferences of children and mothers, or because they disappear from the market. The latter risk to the VISM list stability is a hazard attaching to "store-boughten" materials not manufactured especially for the program and not created by the mother from "found" materials around the home. Commercially

available rather than project-designed materials are used: (1) to avoid dependence of future replicators of the program on VIP designated sources of curriculum supplies; (2) to emphasize the importance of the criteria rather than of particular materials; and (3) to make it easier to adapt the program, when replicated away from the project, to local needs while upholding uniform standards for the materials. Home-made curriculum supplies, with their apparently good possibilities to promote the mother's ingenuity and creativity, have not been introduced for a variety of reasons: their quality, and the mother's enthusiasm for making them, may vary with the special skills of the home visitor; many low-income mothers may not have the time outside of home sessions to make them; they may tend not to remain as durable and intrinsically motivating to the child over a long period of time as commercial materials; and many mothers (and Toy Demonstrators) are almost as motivated as the children by the attractive qualities of carefully chosen commercial toys and books, probably an important condition for the success of the program.

Table I: Criteria for VISM Toys, with Illustrations from the 1967 Mother-Child Home Program VISM List

Criteria	Names and Descriptions of Toys	Criteria Met by Toys
Verbal 1. Induces language 2. Permits language	Block Cart Wooden wagon, colored blocks with holes, rods which fit into holes	All but 6, 15
Perceptual 3. Strong colors 4. Geometric forms 5. Space organization 6. Size differences 7. Sound differences 8. Tactile differences 9. Form matching	Hammer and Pegs Pegs fixed into wooden bench, can be pounded through to under side, bench reversed	All but 5, 6, 11, 13
	Mail Box Copy of corner mail box, bin for colored wood beads dropped through top holes	All but 15
Motor 10. Specific skills 11. Fitting parts 12. Hitting 13. Pulling 14. Lifting 15. Diffuse motor discharge	Transportation Puzzle Jigsaw puzzle, each piece a different vehicle	All but 7, 12 13, 15
	Two Plush Hand Puppets Animals, movable mouths	All but 5, 6 9, 12, 15
Conceptual 16. Problem solving 17. Intelligible goal 18. Intrinsic reward 19. Imaginative uses 20. Social concepts 21. Sex neutrality 22. Ethnic neutrality	Circus Puzzle Jigsaw puzzle, circus tent, circus scene beneath	All but 7, 12, 13, 15
	Cash Register Simple copy with cash drawer and bell activated by crank	All
Other 23. Low anxiety potential 24. Safety 25. Durability 26. Easy care for mother	House Puzzle Jigsaw puzzle, street and outside of house, inside of house and buried utilities shown under pieces (fewer pieces than same puzzle used with Three Year Olds)	All but 7, 12, 13, 15

Table 2: Criteria for VISM Books, with Illustrations from the 1967 Mother-Child Home Program VISM List

Criteria	Titles and Authors of Books by Subject Groups (in Order of Presentation)
1. Content geared to children's age and interest, interesting to mothers, leads to verbalized associations, widens experience	Two and Three Year Olds
2. High literary standards	Kunhardt, D. Pat the Bunny
3. Language simple, rhythmic, with some repetition	Brown, M. W. Good Night Moon
4. Reading level within ability of all mothers	Rojankovsky, F. (illus.) The Tall Book of Mother Goose
5. Content, illustrations, and general format attractive to both sexes and any ethnic group	Keats, E. J. The Snowy Day
6. Illustrations profuse, large, colorful, detailed, rich source of labeling and classification	Zion, G. All Falling Down
7. Low anxiety potential	Krauss, R. The Carrot Seed
8. Durability	Keats, E. J. Peter's Chair
	Eastman, P. D. Are You My Mother?
	Keats, E. J. Whistle for Willie
	Two Year Olds
	Tresselt, A. Rain Drop Splash
	Tresselt, A. Wake Up Farm
	Gag, W. Millions of Cats
	Three Year Olds
	Brown, M. W. The Runaway Bunny
	Seuss, Dr. The Cat in the Hat
	MacGregor, E. Theodore Turtle

B. The Curriculum

The translation of curriculum objectives into the content of the curriculum itself is divided into two major areas, the cognitive and the affective. The content of the cognitive curriculum includes sensory-motor skills, conceptual development, and language development. The affective curriculum in its operational terms is related to the child's socioemotional competence and to the mother's parenting skills. All components of the curriculum are designed to promote verbal interaction between mother and child, and family and child.

Cognitive Curriculum

Sensory--Motor Skills

The child's capacity to label and symbolize perceptual experiences rests in large part on the sensory-motor base he has developed for perception. At age two and three years (and probably for much longer after these years) he is likely also to be motivated in play by pleasure in the challenge to his developing sensory-motor skills (cf. Millar, 1968). His own self-initiated movements and perceptions lead not only to further perceptual development, through reafference, but provide many of the meaningful experiences to which he can apply his developing language in the process which Bruner called instrumental conceptualism.

Any of the child's sensory-motor activities in the Home Session are grist to the mill of the verbal interaction process. But a catalogue of them would go far beyond the confines of this curriculum, which necessarily is a selection of those to be emphasized in Home Sessions. These include the motor activities of building, fitting, matching, and small muscle coordination; sensory discrimination among sounds and textures; and perception of colors, shapes, and sizes.

Conceptual Development

The development of concepts, and of the ability to conceptualize, is probably a prerequisite of cognitive growth, which leads in turn to

what is sometimes called intelligence--the ability to learn from experience and apply that learning to new problem situations.

There are certain universal concepts which appear basic, at ages two and three, to further learning. The inclusion of some of the most important concepts in the cognitive curriculum presupposes the prior acquisition in earlier infancy of such fundamental notions as object permanence and size constancy. By the time children enter the Mother-Child Home Program, they are also considered ready to begin to learn relationships (spatial, temporal, and quantitative); numbers, and words for quantities; ideas of causation and consequences; and the categorization of sounds, textures, colors, shapes, and sizes. They can learn, through many experiences, hierarchies of ideas and branching of concepts, and to aim toward orderly sequences of ideas.

Parallel to the child's exposure to new concepts and relationships among the concepts, he is given practice in activities which lead to his own construction of concepts. He is encouraged to strengthen and develop his innate ability to abstract essential similarities from unlike experiences, and to symbolize his abstractions in words. Many shades of blue can be categorized as "blue". Blue, green, and yellow are all "colors". To assist him in this expansion of his conceptual skills, he is challenged by problem solving, particularly in the VISM toys. Information appropriate to his age level is fed into conversations during the Home Sessions. He is guided to predict future events, starting with his awareness of the regularity of the Toy Demonstrator's visits. He is encouraged to notice incongruities, perhaps by recognizing his mistakes in building with blocks when a structure keeps tumbling down. He is helped to achieve some distance between himself and immediate perceptual experience through the use of words (naming instead of pointing). His representational competence (Sigel and McBane, 1966), closely related to "distancing", is increased through looking at the many book illustrations of varied styles and colors and of familiar objects and experiences. His life experience is extended and expanded through the content of books and toys through verbalized associations from that content to his own experience.

It might be said that almost every aspect of the Mother-Child Home Program provides the child with particular instances of experience, on all levels (sensory, motor, perceptual, affective), which he learns to group, and from which he learns to generalize or conceptualize. Generalization frees him to think divergently, within orderly sequences of conceptual hierarchies. Divergent thinking is encouraged--other ways to use toys, fresh associations to stories and illustrations, fantasies in which the boundaries of acquired experience remain as guideposts back to reality. The encouragement of curiosity and creativity are important features of the conceptual aspects of the cognitive curriculum.

Language

Important as language is for communication, and important as syntax may be for the organization of that communication and indeed eventually for the organization of thought, both of these aspects of language are considered secondary for the child at ages two and three. An over-riding function of language at this age is the symbolization of concepts, the generalizations from particular instances, and the comprehension of the generalizations of others whether in the immediate environment (e.g., conversation) or not (e.g., books). Symbolization of abstractions through language leads to conceptual growth. The verbal interaction with the child in the Home Session places almost complete emphasis on the conceptual content of the language exchanged with the child. This means that both mother and Toy Demonstrator are freed from the constraints of mainstream or subcultural styles of syntax or language, so long as the exchange of language with the child is kept alive. The focus and content of the conversation are around an immediate situation interesting to the child and natural for mother and Toy Demonstrator.

Within that spontaneous context, the language curriculum probably leads to vocabulary as well as conceptual growth. It starts with labeling the materials, activities, and sometimes the surroundings (e.g., clothing, furniture) of the Home Sessions. The Toy Demonstrator describes her own activities and encourages the child to describe his, with positive reinforcement

of his spontaneous speech but without pressures for him to produce it. The conversation is often kept going through "extensions" of the child's verbalizations, elaborations of what he has said. The elaborations are frequently conceptual summarizations of the child's isolated labels ("yes -- the blocks are red -- green -- yellow. They're colors, aren't they?"). The Toy Demonstrator models not only the verbalization of concepts toward which the child is groping, but she also voices or elaborates the child's experiences in play: e.g., motor and perceptual activities, encounters with problems, and cause and effect relationships.

Where possible, verbal rather than gestural responses are elicited from the child but without pressure. The Toy Demonstrator conveys, by her example, that the listening silence of adults may be a most important part of the verbal interaction curriculum. Giving a child the chance to say what he wants to, at his own pace and in his own style, may well be his best introduction to sustained language exchange -- conversation. Some children, though reportedly competent in language, are disinclined to use it actively with someone present outside of the family, as is the case in Home Sessions. Their contribution to the verbal interaction appears to be internal, with their actions indicating their comprehension of even complicated language from the adults. Their occasional voicing of concepts and measured intellectual gains suggest that conceptual growth is taking place, perhaps through an inner dialogue accompanying the language of the adults at Home Sessions.

Affective Curriculum

Child

The socioemotional competence of the child is fostered through coping abilities grouped into five categories.

1. Responsible Independence: acceptance of help when necessary without being infantile; appropriate self-protection; self-confidence; self-control; and avoidance of physical risks without excessive timidity.

2. Social Responsibility: self-restraint of physically aggressive behavior toward others; verbal rather than motor expression of hostility; cooperation with others; observance of necessary family and Home Session rules; ability when appropriate, to place own needs second to those of others.

3. Cognitively Related Skills: sequential and logical organization of tasks; verbalized rather than motor expression of ideas; imagination; curiosity; reflectiveness; inventiveness and creativity; ability to make choices; knowledge of the difference between fantasy and reality accompanying capacity for fantasy.

4. Emotional Stability: pleasure in social interaction; spontaneity without explosiveness; toleration of frustration; mood predictability.

5. Task Orientation: initiation of non-destructive, goal-directed activities; comprehension of tasks; self-directed completion of tasks; efficacy (enjoyment of mastering tasks); pleasure in the task itself; attentiveness; concentration.

Mother

The mother's self-esteem appears to increase through direct feedback from the child, as she sees the positive results of her informal teaching at each Home Session and between Sessions. It is also enhanced by her ability to influence the child's socioemotional competence through the maintenance of effective child-rearing methods, many of them found successful by Baumrind in her study of the antecedents of good coping skills in nursery school children (1967).

1. Verbal Interaction with Child: information giving; verbal responsiveness to child's request for attention; clear verbalization to the child of expectations for the child; verbalization of approval; conversation with child; verbalization of reasons for child's obedience.

2. Encouragement of Child's Autonomy: discouraging child's over-dependence; encouraging child's understanding of directives; active encouragement of child's independence; training of child for self-direction; respecting child's reasons for protesting directives.

3. Nurturance of Child: emotional warmth; verbalization of affection; satisfaction of child's signaled needs; provision of comfort when the child is unhappy; positive reinforcement of desirable activities; response to child as an individual (person orientation) rather than to child in his "role" as a dependent and hers as authority figure (status orientation).

4. Parental Control: manages discipline without scolding; is firm with child; directive gains child's attention; tries to enforce directives; persists in enforcing directives.

IV. Organization of Curriculum Content

It is relatively easy to develop curriculum content which appears in the laboratory to fulfill the theory and goals of a preschool cognitive/affective program. A real difficulty arises in organizing the content for utilization outside of the special conditions of the research project in which it is developed. The question, indeed, is whether a total program will be effective and practicable outside of the field laboratory setting, with its usually specially selected, highly experienced staff. Therefore, not only must the curriculum content be generally applicable in other settings and to groups similar to that of the research project's population, but it must be arranged for the facilitation of its application by the wide variety of personnel available in replications distant from the project.

The implication of this conclusion for the curriculum of the Mother-Child Home Program was that it had to be organized so that it could be implemented by Toy Demonstrators of many levels of education and with diverse work experiences. The result was a curriculum method intended to be structured enough not to depend on the prior skills or spur-of-the-moment ingenuity of the Toy Demonstrator, yet flexible enough to allow free rein to her creativity and personal style.

A. Plan for Curriculum Materials

The list of VISM (Verbal Interaction Stimulus Materials) for each current program year is begun in the previous program year about ten months before the beginning of the current year. The VIP staff reviews new toys and books coming on the market, using the criteria in Tables 1 and 2, while Toy Demonstrators report throughout the year on dyads' reception of the then current list. From these two sources of information, a list of tentative substitutions for the next year is gradually compiled. The final VISM list for a program year is based on this list and on three other sets of data: formal rankings by the Toy Demonstrators of the children's VISM preferences; interviews with mothers producing the same information plus their own preferences, (both at the end of the previous program year); and the market availability of VISM.

The final list of toys and books for both Program I (two year olds) and Program II (three year olds) is mimeographed a few months before the current year begins on forms used for a variety of purposes: e.g., control and reception of orders from jobbers, publishers, and manufacturers; and information to organizations replicating the program.

While all of the toys and books are chosen because they fulfill important functions in carrying out the curriculum, they are uncomplicated. Learning to use them is within the capacity of any Toy Demonstrator or mother, no matter what her previous education and experience. They also tend to be interesting even to adults, in spite of their simplicity. This is an important attribute. The adults who implement a program should not be bored by major aspects of it, if they are to convey their own enthusiasm (which is the essence of teaching) to the children.

B. Curriculum Method

The curriculum method is conveyed partly through the initial training and weekly group supervision of the Toy Demonstrators, and

partly in written form via (1) the Toy Demonstrator's VISIT Handbook; (2) the "Child's Behavior Traits", an instrument for measuring the child's psychosocial growth; and (3) "Parent and Child Together", an instrument to rate the parents' maintenance of functional child rearing practices.

The latter two serve both as measures and as focal devices for the affective curriculum, which is taught verbally by the supervisors in initial and ongoing training. The instruments include most of the behaviors which the Toy Demonstrator attempts to model and which are listed under the content of the affective curriculum. But the affective curriculum goes considerably beyond the behaviors listed in the instruments, although these do form the structured part of the affective curriculum and, essentially, its core. The Supervisors convey, through discussion, role-playing, audio-visual materials, and perhaps above all, their own modeling, the interpersonal behavior and attitudes functional to the goals of the program. These are, basically the person-oriented, one-to-one transactions which Bernstein, Hess and Shipman, and many others have found conducive to the child's learning.

Many affective factors are also included in the written portion of the curriculum which is called The Toy Demonstrator's VISIT Handbook. "VISIT" is the acronym for "Verbal Interaction Stimulation Intervention Techniques", a fairly exact description of the contents of the Handbook. The Handbook consists of an Introduction, which sums up much of the content of the Toy Demonstrators Training Workshop; and a Guide Sheet to be used with each new VISM, given out one at a time at weekly Toy Demonstrator conferences to be added cumulatively to each Toy Demonstrator's Handbook.

Each Guide Sheet for verbal interaction techniques is a summary of the cognitive curriculum, and of some important elements of the affective curriculum. A Guide Sheet is written by the Verbal Interaction Project staff for each VISM. The list of concepts and techniques to be modeled for the mother is the same on every Guide Sheet, although it differs somewhat for toys and books. The curriculum contents and techniques are repeated throughout Programs I and II, and are illustrated by the special features of a particular toy or book. The illustrations become gradually more complex with each successive Guide Sheet, but are not rigidly sequenced. A Guide Sheet for a VISM early in Program I (e.g., the Form Ball) is likely to list simple number

concepts from one to five, and easy relationships, e.g., "in the ball, out of the ball, beside the ball". The Take Apart Truck, coming a year later in Program II, lists such relatively sophisticated number concepts as "least", "every", and "as many", and lists the relationships "different", "same", and "other".

The emphasis in the Guide Sheet is on the Toy Demonstrator's exploitation of the verbal interaction possibilities of a toy or book through naming, and encouraging the child to name, labels, concepts, and activities of both Toy Demonstrator and child. There is a general reminder to encourage the child to converse, to be curious, imaginative, and independent; and to use positive reinforcement to motivate his learning. There is a specific reminder to foster other behavior shading into the affective area coming under the heading of reflectiveness: attentiveness, decision making, self-control, association to previous experiences, sequential ordering, and fantasy.

By the end of the program year, each Toy Demonstrator has accumulated in her Handbook either 23 or 46 Guide sheets, depending on whether she has visited only children in Program I or children in both Programs I and II.

A. Staff Roles

Toy Demonstrators

The Toy Demonstrators, who model the curriculum for the mother in Home Sessions, and the Program Coordinators who supervise them (called Program Supervisors in the Verbal Interaction Project) comprise the intervention staff of the Mother-Child Home Program. They are supported by a secretary.

The Toy Demonstrator role was initiated in 1967 by trained social workers with Master's degrees. In following years they became Program Supervisors who recruited, trained and guided women with a very wide range of education and work experience for the Toy Demonstrator role. The few criteria for selecting Toy Demonstrators after 1967 grew primarily out of the preferences of mothers expressed in home interviews after one and two years in the program. The Toy Demonstrators are women, usually above teen-age, who show some warmth toward mothers and children in their application interview, and who attend all eight sessions of the Toy Demonstrator Training Workshop at the start of each program year. There are no educational or experience requirements. In the model program of the Verbal Interaction Project, paid Toy Demonstrators (usually former mother-participants) seldom have had previous work experience in educational programs, and have had little opportunity to acquire general work skills. Their education is high school or below, and they are of low income, a prerequisite for receiving payment in the program. Volunteer Toy Demonstrators are typically college educated, have frequently had previous work experience with educational or service-oriented programs, and do not fall within the low income SES. Both kinds of Toy Demonstrators receive the same training and supervision together, resulting in valuable interchange of life experiences. Such interchange is helpful not only to giving better service to mothers and children in the program but also to the personal growth of many of the Toy Demonstrators, paid and unpaid.

Every mother-participant in the model program is invited, after her child completes two years (Program I and Program II), to become a paid Toy Demonstrator the following year. Unpaid Toy Demonstrators are recruited through notices to local service organizations and through the volunteer department of one of the Verbal Interaction Project's sponsors, the Family Service Association, Hempstead, New York. The number of dyads they visit ranges between one and ten, depending on the amount of time they are willing to devote to the program. After the initial eight-session Training Workshop, which is distributed over two or three weeks in September and/or October, the minimum amount of time is figured at about five hours. The basic weekly time includes a two hour Toy Demonstrator Conference (group supervision), an

hour for paper work and individual supervisory conferences as needed, two half-hour Home Sessions for each dyad, and an hour for preparation for Home Sessions.

Coordinator

The Coordinator, or Program Supervisor, carries the responsibility for the operation of the total Mother-Child Home Program, whether in the research project's model program or in replications away from the project. Usually a woman, she manages or supervises all aspects of the program, including the recruiting, training, and supervision of the Toy Demonstrators; recruiting and interviewing mother-participants; ordering and distributing to Toy Demonstrators theVISM curriculum supplies; handling the countless details of administration; and, in replications away from the Verbal Interaction Project, maintaining a liaison with the sponsoring organization. The educational background found to be most functional for her role is a college degree in a service-oriented profession, at a level defined by her sponsoring organization as "professional". In practice, this has ranged from BAs to doctoral degrees, in the model program and its replications.

The Coordinator is known to every mother participant in the program, because she has made the initial recruiting visit to them, has introduced the Toy Demonstrator, and returns at mid-year and at the end of the program year for home interviews to give the mother a chance to speak her mind about any aspect of the program or relations with her Toy Demonstrator. During the introduction of the Toy Demonstrator to the mother, the latter is invited (in her Toy Demonstrator's presence) to get in touch with the Coordinator whenever she wishes to do so. Thus the ongoing nature of the mother's relationship with both Toy Demonstrator and Coordinator is clearly defined. If the mother continues on to become a Toy Demonstrator herself, her previous experience with the Coordinator, as one member of a team, is an asset in her future working relationship with the program and with the Coordinator as a peer.

B. Parent Roles

The active involvement of parents, and especially of mothers, is indispensable to the implementation of the Mother-Child Home Program. The expanded and continuing verbal interaction between parent and child is hypothesized to be the most crucial aspect of the program's effectiveness with the child, for the reasons reviewed in the theoretical sections of this chapter. Therefore, the parent most available (almost always the mother) must participate in Home Sessions. The latter are arranged at her convenience, with a commitment on her part to be present at them, and a commitment from the program to keep the appointments except in the most extreme circumstances, e.g., an impassable snow storm. The mother and child, both always present at Home Sessions, are regarded as an interacting social system of two persons and for this reason are called a "dyad".

Since the general goal of the program is the prevention of educational disadvantage, the mother-child dyads can be enlisted from any population whose older children have shown a pattern of educational disadvantage in the public schools. Of the many groups of children vulnerable to educational disadvantage, the target population for the Verbal Interaction Project's model program was selected to be the low income group. In the first years, mothers of two year olds were recruited from low-income public housing projects; later, non-housing project families were added. Eligibility for low-income housing was the main criterion.

Care in recruiting procedures -- e.g., no pressures, subtle or otherwise, on mothers to join the voluntary program -- begins the process of genuine parent involvement in the first brief interview with the mother. This interview, like all others, is in her own home and is conducted by the Program Coordinator. In a second home interview shortly after the first, the Coordinator records brief demographic information about the child and family to aid the Toy Demonstrator eventually assigned to the dyad in being most useful to mother and child.

The mother and child are personally introduced to their Toy Demonstrator by the Coordinator before their first Home Session, which is

devoted to mother and Toy Demonstrator together assembling a permanently assigned Toy Chest for the weekly VISM. The dyad is then visited twice-weekly, within a Home Session Schedule the mother has worked out for her convenience with the Toy Demonstrator. The mother is present and involved at both Home Sessions, the first of which is called a VISM Session (when the new weekly toy or book is brought) and the second a Review Session for playing with previously presented materials.

The mother's active involvement is a general goal of every Home Session and a frequent subject of discussion in Toy Demonstrator training conferences. The techniques for involving mothers are both general and individual but are always adapted to the personal styles of the mothers. Some pick up the techniques modeled by the Toy Demonstrators almost at once and take much responsibility for the Session from the beginning. Other mothers stay on the sidelines for many Sessions before they venture (often shyly) to become active. Most mothers fall somewhere in between the extremes of the continuum. Each is encouraged to go at her own pace, within the general structure of the program.

The wishes and opinions of mothers are not only sought but heeded in regard to any aspect of the program, as well as any aspect of their own personal situations. Not only are mothers interviewed formally for their opinions three times during the program year (beginning, middle, and end), but Toy Demonstrators are trained to be alert to verbal or non-verbal signals suggesting that a mother wishes to talk directly with the Coordinator. Usually this is because a mother wishes help with a family problem (possibly physical, emotional, or legal); if so, the Coordinator, on the visit arranged by the Toy Demonstrator, helps her to obtain aid from the appropriate community agency. The Toy Demonstrator does not give counsel even when the mother asks her for advice, since she was not selected or trained for skills in counseling.

Father, brothers, and sisters are drawn into Home Sessions whenever they happen to be at home. Their involvement requires special techniques by the Toy Demonstrator but is considered valuable because of the explicit family orientation of the program. Fathers, usually temporarily or permanently absent from Home Sessions, sometimes substitute for mothers

in Home Sessions (if the family has two parents) and often follow the mother's example in playing and reading with the child outside of the Session. The mother is reminded of the importance of family interaction with the child by answering weekly the Toy Demonstrator's three-item questionnaire: "Who played with the child since the last Session? Who read to him? What were some important happenings in the family that affected the child?"

C Staff Training

The training of both Coordinator and Toy Demonstrators follows clearly defined procedures which have been field tested since 1968 within the Verbal Interaction Project model program and in outside replications.

Coordinator

Whenever possible, the Coordinator, who must be a professional by her organization's definition, spends a year as a Toy Demonstrator before supervising others in the same role. Otherwise, she acts as Toy Demonstrator for at least one dyad, along with her supervisory role. She is trained through a Training Institute well before her program is to begin, followed by a Coordinators' Workshop after one year. She is assigned a Demonstration Center Consultant who is available by telephone, letter, and site visit to assist the Coordinator in following the standards of the model program.

Toy Demonstrators

The Toy Demonstrators are recruited and trained by the Coordinator, who, as part of her own training, has received a complete prototype kit of the extensive mimeographed materials which facilitate the supervision of the Toy Demonstrator. Training begins with the Toy Demonstrator's application interview at which the prospective Toy Demonstrator is first faced

by the Coordinator with some of the job's possible problems and frustrations, inevitable in any intervention program and especially one based in the home. If she does not quail (a few do), she attends an eight session Training Workshop whose syllabus is part of the training kit received from the Coordinator teaching the workshop. She must attend all eight sessions to qualify as a Toy Demonstrator.

At the last Workshop session, the Toy Demonstrator is given her first section of the VISIT Handbook, the Introduction and one VISIT Guide Sheet in a colorful looseleaf cover. She is ready to be introduced to her dyad (s) and to start attending her weekly Toy Demonstrator Conferences, of which there are 24 each Program year. The Conferences are small, informal discussion groups in which the Coordinator acts as friendly leader rather than teacher, aiming at the involvement of group members in support of each other to solve common problems. This loosely structured aim of the Conference is accompanied by activities around its two explicit purposes: (1) the introduction of the week's new Guide Sheets for the new Program I and Program II VISIT, and the accompanying book or toy: and (2) discussion of particular Home Sessions and problems, of which the Coordinator usually has been made aware through the Home Session Records written on each of the Toy Demonstrator's visits.

Individual supervisory conferences may be arranged at the request of either the Toy Demonstrator or the Coordinator. In addition to these as-needed individual conferences, two regular individual conferences are arranged for each TD near the beginning and near the end of the program year. In preparation for each of these conferences, the Toy Demonstrator tape records a Home Session for her and the Coordinator to review together. Then the Coordinator and Toy Demonstrator jointly rate the latter's work competence on the following items:

Knowledge and Attitudes:

Understands the goals of the Mother-Child Home Program and her role in it.
Respects the family's privacy.
Observes confidentiality in her contacts with the family.
Has a positive attitude towards the mother.

Has a positive attitude towards the child.
Respects the mother.
Respects the child.
Is sensitive to the mother's feelings.
Is sensitive to the child's feelings.
Is non-judgemental regarding the family and its behavior.
Recognizes that the child is the mother's ultimate responsibility rather than her own.
Is willing to recognize her own behavioral/attitudinal patterns with the dyad.
Can interact flexibly with the dyad.
Controls her own negative trends, if any.
Has adequate self-esteem regarding her own job performance.
Is committed to the goals of the Mother-Child Home Program.
Uses good judgement in her behavior with the dyads.

Work Skills:

Utilizes the Verbal Interaction Stimulation Techniques in the home sessions effectively.
Uses herself creatively.
Gives the mother early responsibility in home sessions.
Takes adequate care of all program materials.
Relates to the child in home sessions.
Relates to the mother in home sessions.
Fosters team work with the mother.
Is able to manipulate the Verbal Interaction Stimulus Materials, (toys and books) adequately.
Is able to adapt to emergencies if these arise during the home sessions.
Needs only routine group or individual supervision.

Dependability:

Appropriate dress (as defined by the standards of the dyads' community)

TD Conference - attendance
TD Conference - punctuality
Individual Supervisory Conferences - attendance
Individual Supervisory Conferences - punctuality
Home Sessions - attendance
Home Sessions - notifies mother if cancels
Home Sessions - records up to date
Home Sessions - signatures up to date
Accuracy of objective records
Adequacy of written comments

Use of Supervision and Group:

Learns undefensively
Asks appropriate questions
Contributes to discussion
Independent of supervisor
Interacts well with other TDs
Helps other TDs in group
Accepts help from supervisor
Makes good use of supervision
Modifies behavior because of supervision
Adapts to organization/time change

Although the Toy Demonstrator is not expected to enter the program with these skills, she should be on her way toward at least modest competence in almost all of them by the end of the year, given an adequate amount of supportive group and individualized supervision. The ratings help the Toy Demonstrator to pinpoint her weaker areas of competence for special attention in her own self-monitoring.

D. Delivery System

Verbal Interaction Project: Model Program

The model Mother-Child Home Program reaches mother-child dyads in their

own homes via a Program Center which provides space for the Toy Demonstrators' group conferences, for VISM storage, for a secretary and her working quarters, and for the office of a Coordinator (called Program Supervisor). Since the program is conducted completely within the dyads' homes, no space is needed for the children or their mothers. Their only out-of-home activity in connection with the program consists of a visit or two each year for "test games" (standardized cognitive testing) at the Verbal Interaction Project next door. The program follows the local school year, starting in October after the Toy Demonstrators have completed their initial training workshop and lasting until May, with Home Sessions suspended during school holidays.

Times for the two weekly Home Sessions during these seven months are arranged directly between Toy Demonstrator and mother. The dyads keep a very high percentage of the Home Session appointments. Only about 15% a year are canceled, almost always because of illness or other family emergencies. The high proportion of kept appointments appears to be a significant quantitative reflection of mothers' (and children's) enthusiasm for the program which is expressed also in various ways verbally and in action to Toy Demonstrators and Program Supervisors

The Model Program is supervised by the Verbal Interaction Project, which in turn is sponsored by the Family Service Association, Hempstead, N.Y., and by the State University of New York at Stony Brook. Its month to month operation is described in detail in the Manual for Replication of the Mother-Child Home Program. The yearly cost of the program for each child in replications throughout the country ranges from about $250 to about $1000, depending on such factors as use of paid or volunteer Toy Demonstrators, number of children served, and weekly number of Home Sessions conducted by each Toy Demonstrator.

Out-of-Project Replication of the Program

Thirty service organizations -- e.g., schools, family agencies, churches, mental health clinics -- have replicated the program in eight

states of the country, with the assistance of the Demonstration Center, the dissemination arm at the Verbal Interaction Project. Program dissemination and aid to replicators involved in "service delivery of service delivery" has been described in detail elsewhere (Levenstein, Kochman, and Roth, 1973). Briefly, it consists of such activities as the distribution of information about the program in response to telephoned and written requests; reception of visitors at the Center to observe a Toy Demonstrator Conference, to see films and other audiovisual materials about the program, and to ask questions of Consultants; and the purchase, loan or rent of audiovisual materials, including an informational film Learning in Joy. Actual replication assistance includes training Coordinators of replicated programs at the Demonstration Center, and site visits and consultations to Coordinators and programs. During training the Center equips the Coordinator with complete kits of examples of all the mimeographed and printed materials required to run a program. The Consultant assigned to the Coordinator during training sends her new materials whenever appropriate as part of the Coordinator's continued training.

In order to receive the Demonstration Center's training and consultation services (apart from general information dissemination) an organization planning to replicate the program is asked to include the basic standards of the model program in its local Mother-Child Home Program. This procedure follows from the Verbal Interaction Project's decision to devote its limited resources to replications which give promise of effectiveness outside of the project because of adherence to standards associated with program effectiveness within the project. The basic criteria for replication, and thus eligibility for training and consultation from the Verbal Interaction Project are:

1. Voluntary participation by parents throughout Program.
2. No cost to parent.
3. Children approximately age two at entry and continuing in the Program for two years.
4. Participation in all Home Sessions by at least one parent in Child's home (or parent surrogate designated by parent and living in home).

5. Permanent assignment of Program toys and books which meet Model Program criteria.
6. Training of Coordinator by VIP or by VIP approved training center.
7. Family oriented professional (at least B.A. degree) as Coordinator.
8. Initial training and weekly supervision of Toy Demonstrators as in VIP Model Program.
9. Duplication of Model Program procedures, with minor variations only as agreed by VIP, and review of the replication by the VIP at any time for maintenance of standards.

The dissemination services and activities of the VIP Demonstration Center are summarized in the following list, arranged in order of criteria for availability:

Level 1: General Information (available to any interested individual)

Replies to written and telephoned inquiries; reprints of journal and other articles.

Level 2: Specialized Information (available to any professional person and non-profit organization)

Level 1, plus: copy of Manual for Replication of the Mother-Child Home Program; visit to Demonstration Center; loan, rent, or purchase of film and other audiovisual materials, as they become ready for distribution.

Level 3: Training and Consultation to Replicators (available to non-profit organizations committed to program replication or a planned variation, but not to evaluating the children for its effectiveness)

Levels 1 and 2, plus: attendance at Training Institute; curriculum materials such as Toy Demonstrator's VISIT Handbook; copies of all program facilitating forms, with permission to use copyrighted materials; consultation at the Demonstration Center; telephone and letter consultation as needed; site consultation.

Level 4: Training and Consultation to Replicators, with Evaluation (available to non-profit organizations committed to both program replication and evaluation of the children for program effectiveness)

Levels 1, 2, and 3, plus: Assistance with problems connected with standardized cognitive testing of young children; provision of data gathering and record keeping instruments; inclusion of sample description and test data in the VIP's computerized data tabulations and analysis.

Level 5: Training and Consultation to National and Regional Service Organizations to disseminate the program to their affiliates; and to organizations approved by the VIP to maintain Regional Demonstration Centers

Levels 1 through 4, plus: Consultation, planning, and training to prepare national organizations to maintain Demonstration Centers for servicing affiliates wishing to replicate the program; and to prepare other organizations to carry on regional centers to service organizations in localities distant from the VIP.

VI. Research and Evaluation

A. Formative

In order to provide for continuous improvement and refinement of the program, the Verbal Interaction Project has been repeated yearly with new groups of children whose cognitive development is measured on standardized instruments before, during, and after receiving the two year program. The program itself is evaluated during each year, from a variety of viewpoints, on many project-developed instruments. Both kinds of evaluation are formative in regard to refinement of the program and the reliability of its effects, through regular, more closely spaced soundings on a program operation. Mothers, Toy Demonstrators, program supervisors, and even visitors to the Demonstration Center are systematically queried for their reactions and opinions of program and/or dissemination activities.

The mother's opinions of the program, VISM, and her Toy Demonstrator are solicited by the Program Supervisor at a Final Interview at the end of each program year. They are recorded during the interview on a formal schedule, and are systematically coded for group tabulation and data analysis. The data are consulted during planning for subsequent years. The mother's opinions and reactions are also sought in a home interview by the Supervisor at midyear, but with more informal scrutiny of individual replies, so that there can be an immediate adjustment of program procedures in response to the mother's wishes, e.g., a change of Home Session times or even of Toy Demonstrator. On an ongoing basis througout the program year, the Toy Demonstrator informs the supervisor of the mother's comments or of other signals that changes are needed for a particular mother, or even for the whole program.

The comments and quantitative judgements of Toy Demonstrators are systematically recorded during the program year, starting with their ratings of their Training Workshop and continuing with the records of every Home Session and the discussion of Home Sessions in their weekly group conferences with the Supervisor. Twice during the year, near the beginning and near the end, the Toy Demonstrators formally rate the progress of their dyads on 34 items along the dimensions of general Home Session arrangements, mother's activity in Home Sessions, child's activity in Home Sessions, accessibility of VISM, and family changes. At the end of the year the Toy Demonstrators rank the year's VISM in order of their apparent preference by the dyad, and evaluate by comment and ratings their experiences in the program.

The twice yearly joint evaluations of the Toy Demonstrators by Toy Demonstrator and Supervisor are reviewed for indications of possible changes in training and other procedures. At the end of the year the Supervisors also fill out a formal evaluation of dyad progress which is independent of the Toy Demonstrator's. Information gathered by the Supervisor through feedback from mothers and Toy Demonstrators is channeled into the Verbal Interaction Project. In this

way there is constant review of program operation, and there are opportunities for clarification and change within program guide lines.

Every visitor to the Demonstration Center is asked to fill out a one page formal questionnaire, giving his evaluation of visit experiences (and a chance to ask questions which might not have occured to him during the visit). Participants in information and training institutes also rate and comment on their experiences. All such evaluations are reviewed by staff as they arrive at the Demonstration Center, with comments and questions heeded as indicators for change in immediate or future dissemination procedures and policies.

B. Summative

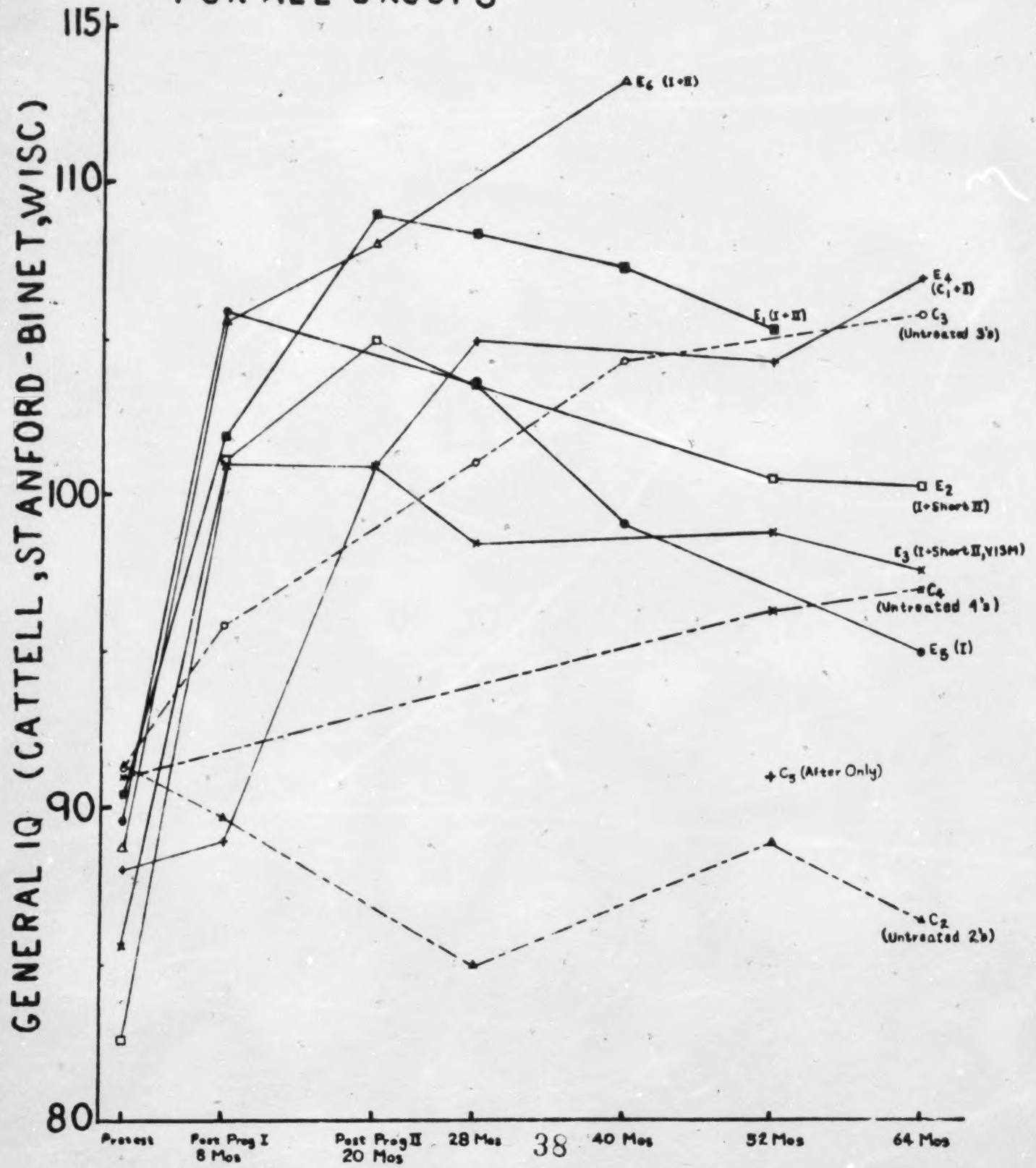
Summative evaluation provides the data for judging the cognitive and affective effectiveness of the program for children, the information which tells whether the program works. The yearly replication of the program within the VIP yields, through formative evaluation, information for program improvement. The in-project replication also gives the opportunity for summative evaluation, for taking repeated soundings on the program's effectiveness through the measurement of the children's cognitive progress and of the affective status of both children and mothers. It adds cumulatively to the number of children reached in the project and makes possible generalizations of its probable effectiveness in replications away from the VIP. Such generalizations are strengthened by the developmental evaluations of children in out-of-project replications with different populations vulnerable to educational disadvantage and in different settings under a variety of auspices.

Between September 1967 and June 1974 more than 300 children and their mothers participated in the model Mother-Child Home Program within the VIP. About 20% received a one year version of the program, and the rest had two full years of the program (some with shortened versions of the second year). The project used a quasi-experimental research design (in the first

year, one Experimental and two Comparison groups randomized by geographical location of each group, rather than randomization by subject) and standardized cognitive tests (Cattell Intelligence Scale for Infants at age two; the Stanford-Binet Intelligence Scale at age three and four; and the Peabody Picture Vocabulary Test at all ages) to evaluate program effectiveness. The yearly groups of children regularly made large gains to an IQ of approximately 105 by the end of one or two years of participation in the program. Follow-up studies reveal that the groups tend to retain their IQ status into school years with retention of gains varying as a function of amount of exposure to the program. That is, groups of children who had two full years of the program retained or increased their gains into kindergarten and almost all of their gains into second grade. The children who had one year of the program in 1967 gained 15 points (to an IQ of 105) by the program's end. However, these children declined to an IQ of 94 by second and third grade: the loss was apparent by kindergarten, when this group's IQ dipped to 99. Figure 1 shows the cognitive development by June 1973 of eight treated groups and of four untreated groups. Details of early data may be found in Levenstein (1970) and Levenstein (1971).

The affective goal of the program for the children was to promote their socioemotional competence. Between ages two to four years, this could be measured only for treated children, since the measurement was through observations of the child in twelve Home Sessions. The instrument used was developed by the VIP on the basis of the children's affective curriculum and was called the Child's Behavior Traits (CBT). However, both treated and untreated children were rated yearly on the CBT by their teachers when they reached elementary school. Within the program itself, the children showed significant socioemotional gains. Their CBT scores and IQs correlated with each other. In fact, the CBT scores of the children at the beginning of the program were a good predictor of their IQ gains by the end of the program, while their IQ scores at the beginning were not. In elementary school, the three two-year treated groups in the 1973-1974 follow-up study achieved higher CBT scores than the other groups.

. . . FIGURE 1: LONGITUDINAL COGNITIVE DATA, 1967-1973 GENERAL IQ GROUP MEANS FOR ALL GROUPS



For mothers, the affective goal was to promote their parenting skills, measured through observation of twelve Home Sessions. Parenting behavior was rated on the Parent and Child Together (PACT), a VIP developed instrument based on the mothers' affective curriculum. The mothers completing the two-year program in June 1974 made significant gains in their PACT scores. Interestingly, their PACT scores correlated with the children's CBT scores, and both PACT and CBT scores correlated with the children's IQs. This suggests a triadic relationship among the three characteristics: the child's socioemotional competence, the mother's parenting skills, and the child's cognitive development. It is probable that the more skillful the parenting, the better the child's socioemotional and intellectual development. But it is hard to know which of the three corners of the triad is causative; perhaps all influence each other. It is surmised that the MCHP can foster all three by addressing itself particularly to the affective and cognitive parenting skills of the mother.

The actual presence of academic school problems in treated and non-treated subjects is a direct criterion measure of the program's effectiveness in achieving its aims. As part of the 1973-1974 follow-up study, their teachers reported on the presence of academic school problems in all 159 children then in kindergarten through fifth grade. The children were in eleven treatment groups divided among three categories: two-year treated groups, groups with one or partial two years of treatment, and untreated groups. The three groups which had had two full years of the MCHP, and were now in kindergarten, first, and second grades, showed lower rates of school problems than any other group.

Children who graduated from four replications of the two year program in organizations away from the VIP (in Massachusetts and New York) by 1971 made a combined IQ gain almost equal to that of model program children who were in the VIP program for the same period of time, 1970 to 1972. Thirty-seven children in programs away from the project gained 15 points in IQ, reaching a combined IQ of 103 immediately after the two year program (Levenstein, 1972). These results will be compared in the future to those from other children who complete two years of the program, in replications away from the project. Children in many program replications will be evaluated yearly. The evaluations in seven of the replications will be monitored 1974 to 1976 by Educational Testing Service of Princeton, New Jersey, to observe the reliability of the test procedures.

C. Conclusions

It appears from the research data thus far that the Mother-Child Home Program is accomplishing its short-term cognitive objectives both in the model program and in early replications of the program with small numbers of children away from the Verbal Interaction Project. It also appears that full program graduates retain their cognitive advantage into second grade. Future VIP research with a larger number of children will reveal whether the cognitive gains are translated into good academic achievement in third grade, the school milestone when it is possible to guess the likelihood, from a child's academic performance, of his doing well or encountering failure in his overall school career.

The affective instruments developed by the Verbal Interaction Project (Child's Behavior Traits and Parent and Child Together) have indicated that the program effects positive changes in the child's and mother's affective behavior. The Mother-Child Home Program does indeed seem to foster the child's socioemotional competence and the mother's parenting skills. If future research data indicate that these effects favorably influence the child's school behavior, there will be strong evidence for the accomplishment of its affective as well as cognitive aims. The grounds will be present for the belief that a simple program which centers around the most basic cognitive and affective potentialities of human beings can strengthen families to develop happy, well functioning children.

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